ideas of where our water comes from and where it goes when we are done with it. This was a good indication of where I needed to take my teaching.

Pre Assessment

N=25

N=23

N=25

Post Assessment

**Regular Curriculum N= 24 Regular + Supplemental Curriculum N= 24**

By looking at the results of the post assessment, one can definitely see that the class in red (the class who received the supplemental materials) scored much better and had more sophisticated answers. For example, instead of only listing taking shorter showers or keeping water clean, they said to not put grass clippings in the road, do larger loads of laundry and only use water when necessary. The group that received the extra material also saw the value of water and that they could affect it whereas the other group didn’t see it in the exact same way. Watersheds were something that the group without the supplementary materials did not understand because it is not mentioned more than once in the regular curriculum.

When the students were asked about the different parts of the water cycle, I was shocked that students in the regular curriculum group still answered that they did not know for some of the questions. The group with the supplemental material gave multiple answers and to each question. Also, the regular curriculum group did not retain the knowledge that we get water from our watersheds such as Lake Michigan or wells. Many of the students said we get our water from the clouds. With a combination of all the activities, students truly understood that they were studying a cycle. By actually walking from station to station and finding evidence in nature, students truly learned and engaged in the water cycle. When looking at the question about where water goes after it rains, I loved the variety of answers the group with the supplemental materials came up with. They remembered, “evaporating” from the fields, “falling” into a stream, or “landing” on an animal. There is no doubt in my mind that these additional activities are best for all fourth graders.

Interview Questions

N=24

When the students were asked if they enjoyed learning about the water cycle in the Nature Center, all twenty-four students responded that they did enjoy being outside. When I asked the students why they enjoyed learning in the Nature Center, they gave me many reasons. The majority of the students said that they enjoyed learning outside because they could see and experience what they were learning instead of “just imagining” it. A few of the students even went as far as saying that they enjoy/need hands on activities to learn the best. Some other reasons that the students stated where that they enjoyed the fresh air, they had fun, and they enjoyed getting to take pictures.

N=24

The other interview question that I asked the students who received the supplemental materials was if they learned better or worse when they are outside. Only one of the twenty-four students said that being outside distracted them. The other students said that they learn better outside for various reasons. Many of the students find nature to be relaxing. Some students also repeated that they learned better because they could see the actual parts of the water cycle or as one of my students said, “You get to see the real thing!”

**Action Plan**

After looking at the data and the impact that these activities have had on my students, all students at Denmark Elementary will have these activities in the years to come. Not only are these activities motivational, but also they truly deepen the students understanding. The words that the students shared were inspiring because they comprehended the importance that I was conveying onto them.

I will put together a binder of activities for the other science teacher along with the unit plan that shows the sequence for how to make these activities fit into the allotted time that we have to teach the entire Land and Water Einstein Kit. Within this unit plan, students will be using the Denmark Nature Center as well as simply being anywhere outdoors. The students will also be encouraged to look at their homes, farm fields, streams, etc, to apply what we have learned outside of the school setting.

When creating this binder, I will allow for some flexibility due to complications that can come along with weather. The lessons will be set in a way that they can be taught in different orders, especially since we begin this unit in April when we could still have snow. In order for teachers to accept these activities, I will need to have flexibility within the lessons and supply the materials. I am so excited for all of next year’s class to get to have this rewarding experience.

**Final Reflection**

When adding to an existing curriculum, time is always an issue. Through this project, I felt rushed but knew that the supplemental materials were extremely important. I will begin the unit earlier next year and also combine lessons so that the students have this opportunity. As Richard Louv says, too many kids have “nature-deficit disorder.” I do not want to contribute to that movement, but rather help my students to see the impact that they have on the world through their use of land and water. Their actions can impact the water cycle and the earth that they live on. A one second choice can impact the area in which they live, what an important lesson for them to learn now so that they can start to think about those choices.